


DATE: February 8, 1973

To : Joshua Lederberg, Ed Feigenbaum, Elliott Levinthal, Tom Rindfleisch

FROM : Ron Jamtgaard 

SUBJECT: SUMEX Discussion in Washington on February 1 and 2

While in Washington on February 1 and 2, I visited Bill Baker, Jonathan King, Bernice Lipkin and Bill Raub. I have summarized below the content of each of those discussions and some of the follow-up phone calls since my return to Stanford.

The following summarizes my meetings with Bill Baker and Jonathan King:

1. Five of 17 Study Section members abstained.
2. S. Amarel plus one did not establish sufficient need for the national shared resource.
3. B. Baker felt that the formation of an Advisory Committee would be highly desirable so that Dr. Lederberg would not have to make all the decisions without external advice on national needs.
4. A strong statement of needs for such a resource must be developed.
5. We discussed at length various techniques on how to get maximum useful collaboration.
6. Baker is concerned with two types of needs: The first is the need of specific medical problems for Artificial Intelligence; the second is the need of AI people to work together to solve medical problems.
7. The question was raised as to whether DENDRAL would be made a resource under a contract; then BRB could give more dollars to conduct a national resource sharing program. Perhaps BRB should play a more direct role in management or in sharing the risk of operating a national resource (this item reflects the thinking of at least one Study Section member who abstained).
8. Baker asked whether an Advisory Committee should get dollars under our grant to give to users for travel, conferences, seminars, etc. In addition, the Advisory Committee could get some share of the total resource to be given away. Perhaps the Advisory Committee could give out chips for pilot project computing and could consider paying for communications and terminals.
9. Baker referred me to part of an annual report prepared by Saul Amarel in which he describes the kinds of medical problems that could perhaps be solved by Artificial Intelligence techniques.

I next met with Bill Raub. He noted that two national resources currently exist in Jerry Cox's laboratory in St. Louis and the 1-million volt electron microscopes at the University of Colorado and University of Wisconsin. The two electron microscopes plus one at US Steel are now treated as a national resource and a new Advisory Committee has been formed to discuss allocation mechanisms, etc. Raub mentioned that the Study Section had found Part 1 of our SUMEX proposal to be very supportable and that there was no problem with Part 1. He indicated that we must show a need for outside services from the resource and indicate how management will be accomplished. He suggested that we form a Stanford University committee with the PI acting as chairman. We should include national clientele such as Amarel. In addition an ex-officio member would be a representative from BRB plus one representative from Study Section such as Bernice Lipkin. Raub stresses that it is necessary for Stanford to establish the need, not for BRB to establish the need. He noted that BRB is preparing guidelines for national resources in general. He hopes that his branch can complete them in approximately 10 days. Jonathan King is primary author. He cautioned us about including Study Section members who have to disqualify themselves from the review if they participated in planning the resource through our Advisory Committee.

My next meeting was with Bernice Lipkin, who offered the following comments:

1. No methods of interim funding for the SUMEX proposal are known by Bernice. She encouraged us just to check with Raub's office concerning interim funding which would be totally independent from the SUMEX proposal.
2. The SUMEX proposal problem must be resolved with this round of work. In September there were problems raised which were not resolved and in January there were new policy issues raised. Some Study Section members were perhaps upset due to the feeling that something was being pushed through to be responsive to Stanford's timetable.
3. Part 3 has essentially been rejected.
4. Part 2 needs much more justification. She indicated that the relationship between DENDRAL and the national resource seemed to provide a small intersection point. Some Study Section members felt that shared resources made sense only when they resulted in overall reduced cost. She stressed that the number of users was not an issue.
5. The following question was stressed: How do you set up a shop so that the user's benefit is not dependent upon the goodwill of one person?
6. Stanford must demonstrate the need for a national resource and a national need. She indicated that the Study Section was not interested in network per se; they are interested in the policy ramifications of a national shared resource. Dr. Lederberg must take on responsibility to make it a shared resource.

7. Some persons feel that we may have been somewhat too accommodating in telling the Study Section what they want to hear. If we wish to lead the way in national resource sharing, we should be specific as to what we are really willing to do. The issue according to Bernice is "national resource resource sharing". The apparent contradiction between spikes of excellence and national shared resource was noted. If we are too restrictive we have many unhappy users, if we are too lenient we compromise a research.
8. Repeatedly, Dr. Lipkin stressed that we are fighting a tight funding environment.
9. A new two-day site visit will be scheduled to review Parts 1 and 2. She requested a revised proposal as soon as possible and wants to know the dates that are acceptable to Stanford for a new site review and how soon we can submit the revised application.
10. What type of resource does Stanford want? What funds are included to administer, document and serve users? How will we serve a large community of biomedical users? What are the options to the ARPA Network? Why does Stanford choose ARPA?
11. Our ability and honest intent are not the issue.
12. Resource allocation techniques are at issue.
13. Which is the tail versus the dog: DENDRAL vs. Network. Think of the network as a resource shared, not as a computer hardware entity. What is the relationship of DENDRAL to the resource? Is DENDRAL part of the shared resource or just a user of the resource?
14. The application does not adequately spell out the collaborative research element.
15. DENDRAL is not okay as a stand-alone enterprise; we need to have a resource. What is the relationship of the collaborative effort to Artificial Intelligence? Will the resource reflect the needs outside of Stanford?
16. Our grant application came in as a new application but had some of the flavor of a continuation request. Does the AI community want it? Does anything other than DENDRAL warrant it? Given future tight dollar situations, would priority go to shared resource or DENDRAL? Who manages the machinery? The users or Josh?

Since my return to Stanford, I have had further conversations with Lipkin, Raub, and Baker. Dr. Raub called to indicate his opinion that the best way to document and demonstrate need for a shared resource was to identify additional groups like Amarel. He suggested that we consider Dr. Herbert Gerlenter at State University of New York, Stonybrook. He has been in AI work for about 10 years using chemical-synthesis by computer. In addition, Raub suggested that we consider Dr. Ken Rinehart in Medicinal Chemistry at the University of Illinois, Urbana. He has a first class mass-spectrometry research program, serves on the Profit Review Committee and wants involvement with an artificial intelligence group. Next Dr. Raub mentioned Dr. Harry Pople at the University of Pittsburg. Dr. Pople was originally from Dr. Simon's group and therefore has good Artificial Intelligence credentials. His work in AI involves applications in neuro-physiology and medical diagnosis. None of the above three persons serves on the Study Section. Raub reported that the President's FY74 Budget would hold BRB at a stable rate of 10.5 million.

In a separate conversation with Dr. Bernice Lipkin, I learned that she wanted to schedule the site visit at Stanford for two days during the first week of April. She saw no way to get any part of the SUMEX for the Research Council Meeting to be held at the end of March. She feels that the issues involved are too complicated to permit rushing it through. She stressed again that we must demonstrate a need for the resource and that the number of users was not the issue. She invited us to submit draft copies of a revised grant application to her office where she would get it read by others. I feel that we should definitely take advantage of this offered assistance.

Dr. Bill Baker and Jonathan King offered to visit Stanford for one day or more if needed to help us resolve some of the policy questions concerning the shared resource. After our meeting with Ed Feigenbaum on February 7, I asked Bill Baker to hold off his trip with Jonathan King until the week of February 19. I expect they will have draft copies of revised guidelines (including guidelines for national shared resources) within one week.

I understand that the addressees of this memo will meet at 9:00 a.m. on Friday, February 9, to discuss further the strategy to be followed.

RDJ/ma

(NOTES RECEIVED BY BERNICE LIPKIN.)

- a. Demonstration of need for a national resource of the type for which support is requested.
- b. Suitable administrative mechanisms to assure the availability of the resource to users having a need for such facilities.
- c. Recognition of real costs including documentation, personnel for handling, travel and expenses for use of the resource and for meetings concerned with its overall direction.
- d. A network plan which does make the facility easily available to a large biomedical community.

Support for Part III out. II is important. Dendria, etc. should be nation-wide right from beginning and network is good mechanism.

Should have a facility, prior to sharing.

Can approve basic install. and reg. % be available for outsiders. Don't want any other HSCF or ACME. In tight money → network.  
Some are viewing this as center, some are viewing this as network.

Money for network hasn't been justified. Can't believe the 91 is useless.

I + II, with TIP, delete 11-45 + 150K. Award is contingent upon defining satisfactory guidelines in negotiation with DRR and subject to approval of Council in order to administrate this structure as a national resource. Guidelines should address themselves to the following concerns:

Guidelines for SUMEX:

1. Administrative Committee to manage SUMEX
  - a) proportion of non Stanford U. members on committee
  - b) how are these members chosen?
2. What is policy for allocating use by outside group?  
What criteria will administrative Committee use?  
What will cost be?
3. What is minimum commitment for outside use?

Reid 2-2-73 RF